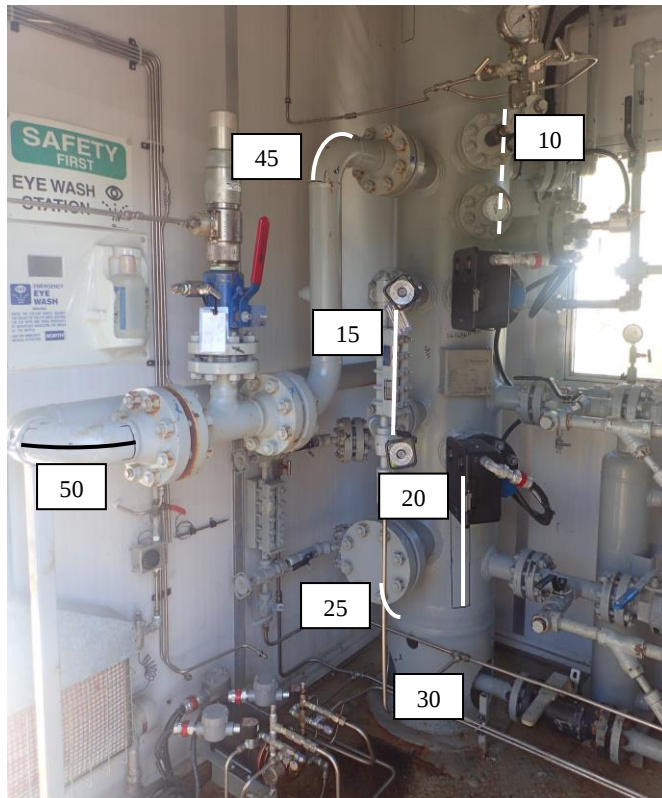
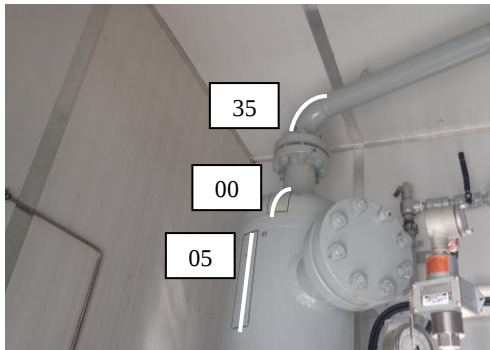






Vessel Static Data:

Name:	Sour Separator
A#:	0588070
Serial Number:	V-9462
CRN:	U 5616.2
LSD:	06-16-047-13 W5M
Location:	North Blackstone
CA:	3.175mm
Size:	406.40mm OD
MAWP:	9756kPa
Temp:	66°C
Head Material:	N/A
Head Nominal:	22.86mm
Shell Material:	N/A
Shell Nominal:	26.19mm
Year Built:	2008
Manufacturer:	Paintearth Energy
Tag#:	06-16BRA-1201



Notes: *Band 30 – 2” drain off bottom head.

 U RT1 HT				CERTIFIED BY Paintearth ENERGY SERVICES INC.	
YEAR BLT		2008		SERIAL NO. U-9462	
VESSEL TYPE 60DX76S/SUVERTICALSEPARATOR					
M.A.W.P.		1415		PSI AT 150 °F	
M.C.M.T.		-25		°F AT 1415 PSI	
SHELL TK.		1.231		IN HEAD TK. 0.900 IN	
CRN		U5516.2		C.A. 0.125 IN	
A# A. 538070					
9869					
MAILING ADDRESS: BOX 24 HALKIRK ALBERTA CANADA T0C 1M0					



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Report No.: 9874

Survey Date: 07/22/2016

LSD: 06-16-047-13W5 Dwg: 66 Vessel Number: A0588070 Manufacturer: PAINT EARTH ENERGY Technician: D. TUCKER
Downhole LSD: Vessel Name: SOUR SEPARATOR Serial Number: V-9462 Certification: CGSB / SNT-TC-1A
District Unit: NORTH BLACKSTONE Year Built: 2008 Shell MAWP KPA: 9756 MAWT C: 66 UT I #17016
Location: FIELD Tag Number: 06-16BRA-1201 Tube MAWP KPA: 0 MAWT C: 0
Unit Name: NORTH BLACKSTONE CRN: U 5616.2 Vessel CA: 3.1750

Band	Description		Baseline	Previous	Current	Next Inspection	Nominal	TMIN	ST Loss	LT Loss	Recommended
						Material	CA		MPY	MPY	Retirement
											Date
00	Top - Head	Ref	2016	24.7140	2016	24.7140	2017	22.8600	16.4012		
Shape	Ellipsoidal	Min		24.6130		24.6130	SA 285 - C	3.1750			
OD	406.4	Avg		24.7900		24.7900					
Spec.	VIII Div 1						Comments:				
05	Top - Shell	Ref	2016	26.1110	2016	26.1110	2017	26.1900	16.8653		
Shape	Cylindrical	Min		25.9080		25.9080	SA 285 - C	3.1750			
OD	406.4	Avg		26.2130		26.2130					
Spec.	VIII Div 1						Comments:				
10	Middle - Shell	Ref	2016	26.4920	2016	26.4920	2017	26.1900	16.8653		
Shape	Cylindrical	Min		26.1620		26.1620	SA 285 - C	3.1750			
OD	406.4	Avg		26.3910		26.3910					
Spec.	VIII Div 1						Comments:				
15	Middle - Shell	Ref	2016	26.3650	2016	26.3650	2017	26.1900	16.8653		
Shape	Cylindrical	Min		26.0860		26.0860	SA 285 - C	3.1750			
OD	406.4	Avg		26.3140		26.3140					
Spec.	VIII Div 1						Comments:				



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Report No.: 9874

Survey Date: 07/22/2016

LSD: 06-16-047-13W5 Dwg: 66 Vessel Number: A0588070 Manufacturer: PAINT EARTH ENERGY Technician: D. TUCKER
Downhole LSD: Vessel Name: SOUR SEPARATOR Serial Number: V-9462 Certification: CGSB / SNT-TC-1A
District Unit: NORTH BLACKSTONE Year Built: 2008 Shell MAWP KPA: 9756 MAWT C: 66 UT I #17016
Location: FIELD Tag Number: 06-16BRA-1201 Tube MAWP KPA: 0 MAWT C: 0
Unit Name: NORTH BLACKSTONE CRN: U 5616.2 Vessel CA: 3.1750

Band	Description		Baseline	Previous	Current	Next Inspection	Nominal	TMIN	ST Loss	LT Loss	Recommended
						Material	CA		MPY	MPY	Retirement
											Date
20	Bottom - Shell	Ref	2016	25.9840	2016	25.9840	2017	26.1900	16.8653		
Shape	Cylindrical	Min		25.8320		25.8320	SA 285 - C	3.1750			
OD	406.4	Avg		26.0100		26.0100					
Spec.	VIII Div 1						Comments:				
25	Bottom - Head	Ref	2016	26.5940	2016	26.5940	2017	22.8600	16.4012		
Shape	Ellipsoidal	Min		24.2820		24.2820	SA 285 - C	3.1750			
OD	406.4	Avg		24.5620		24.5620					
Spec.	VIII Div 1						Comments:				
30	Nozzle	Ref	2016	9.0680	2016	9.0680	2017	8.7100	1.8681		
Shape	90° Elbow	Min		8.4840		8.4840	SA 234 - WPB	4.2637			
OD	60.33	Avg		8.9410		8.9410					
Spec.	VIII Div 1						Comments:				
35	Piping	Ref	2016	7.6450	2016	7.6450	2017	7.6200	3.0374		
Shape	90° Elbow	Min		7.3150		7.3150	A 234 - WPB	0.9525			
OD	88.9	Avg		7.8990		7.8990					
Spec.	B31.3						Comments:				



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Report No.: 9874

Survey Date: 07/22/2016

LSD: 06-16-047-13W5 Dwg: 66 Vessel Number: A0588070 Manufacturer: PAINT EARTH ENERGY Technician: D. TUCKER
Downhole LSD: Vessel Name: SOUR SEPARATOR Serial Number: V-9462 Certification: CGSB / SNT-TC-1A
District Unit: NORTH BLACKSTONE Year Built: 2008 Shell MAWP KPA: 9756 MAWT C: 66 UT I #17016
Location: FIELD Tag Number: 06-16BRA-1201 Tube MAWP KPA: 0 MAWT C: 0
Unit Name: NORTH BLACKSTONE CRN: U 5616.2 Vessel CA: 3.1750

Band	Description		Baseline	Previous	Current	Next Inspection	Nominal	TMIN	ST Loss	LT Loss	Recommended
						Material	CA		MPY	MPY	Retirement
											Date
40	Piping	Ref	2016	9.4740	2016	9.4740	2017	8.7100	2.0612		
Shape	90° Elbow	Min		9.1190		9.1190	A 234 - WPB	1.0888			
OD	60.33	Avg		9.2960		9.2960					
Spec.	B31.3						Comments:				
45	Piping	Ref	2016	7.7980	2016	7.7980	2017	7.6200	3.0374		
Shape	90° Elbow	Min		7.6710		7.6710	A 234 - WPB	0.9525			
OD	88.9	Avg		7.9500		7.9500					
Spec.	B31.3						Comments:				
50	Piping	Ref	2016	7.7980	2016	7.7980	2017	7.6200	3.0374		
Shape	90° Elbow	Min		7.2900		7.2900	A 234 - WPB	0.9525			
OD	88.9	Avg		7.7720		7.7720					
Spec.	B31.3						Comments:				

DATE: July 22nd / 2016

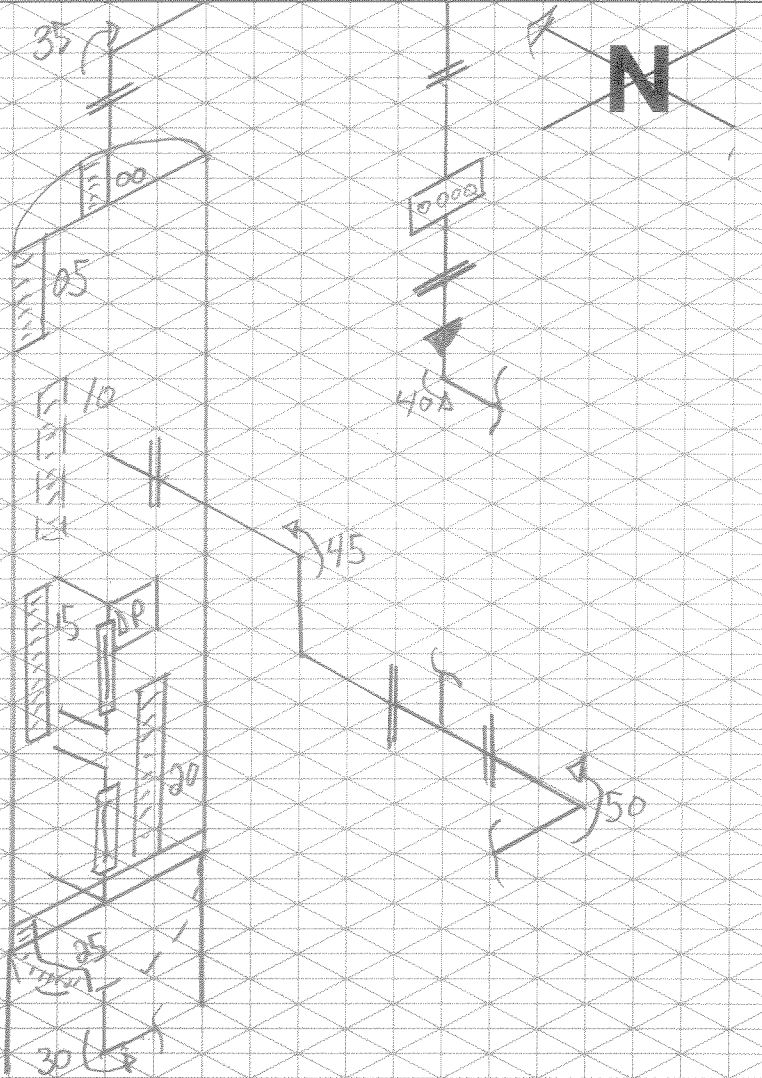
TECHNICIAN: Dusty Tucker

ASSISTANT: Bill Nash

Client Husky		LSD G-16-47-13 W5		Item Band Location	Head	Shell	30	35	40	45	50				
Equipment vert. 3Phase Sour Separator		Serial # / Manufacturer V-4462		Material	✓	✓	4/5	4/5	4/5	4/5	4/5				
CRN 05616.2	A# 588090	# G-16BRA-1201	Year Built 2008	OUTSIDE Diameter	16"	16"	2.375"	3.5"	2.375"	3.5"	3.5"				
DWG -666	Survey	Plant or Field (Circle) North Blackstone	PSIG / KPA 1415	F / C 150	CA 125"	Type	1	pipe	1	2	2	2	2		
				Comment	✓	✓	✓	✓	✓	✓	✓				
				Nominal Thickness	.900"	1.031"	.343	.300	.343	.300	.300				

Paint Earth

DT: 5001-5004



COMMENTS

- 1) Cryogenic Service
- 2) Insulated
- 3) No Name Plate
- 4) Name Plate Illegible
- 5) No Access
- 6) Too Hot
- 7) Rough Surface
- 8) O.D. Pitting
- 9) I.D. Pitting
- 10) Pipe / Plate (Circle One)

Piping Types

1. 90° Nozzle	6. 360° Circ Pipe
2. 90° Pipe	7. Tee Nozzle
3. 45° Nozzle	8. Tee Pipe
4. 45° Pipe	9. Straight Nozzle
5. 360° Circ Nozzle	10. Straight Pipe

Head Types

1 ellipsoidal	5 toriconical
2 torispherical	6 flat
3 spherical	7 hemispherical
4 conical	

Common Materials

A 53-B	C 516-70
B 106-B	D 234-WPB

Ensure all information is recorded for vessel boots, when applicable.

PRESSURE VESSEL & COLUMN INSPECTION REPORT

Date: July 22/2016

Equipment ID: 06-16BRA-1201

Plant Asset #	Op Unit Equipment ID	System Asset Type	
Description	06-16BRA	Prov. Insp. #	Serial #
Manufacturer	Paintearth	CRN	Year Built
MAWP	KPag	@	MDMT
Code	Fluid Service	Sweet/Sour	PWHT
Internal Access	Insulated		Internal Coating
Operating Pressure	KPag	Operating Temp	

PSV DATA

PSV ID #	Location	Size		Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model	Last Service
		Inlet	Outlet					
T	Sour Separator	1"	1"	1330PSI	2705 SCFM	Mercer	T	06/03/2013

06-16BRA-01 PSV

INSPECTION SUMMARY

91-17051714E1

UT, UE performed

RECOMMENDATIONS

NONCONFORMANCES / INSPECTION DEFICIENCIES

INSPECTION PLANNING

Inspection Strategy	Availability	Inspection Interval
Inspection Date	Date of Last Inspect	Date of Next Inspect

REPORT CERTIFICATION

The signatures below certify that inspections/tests have been completed in accordance with the identified inspection strategy and that the specified equipment is considered fit for service until the date of next inspection.

Inspected by Dusty Tucker
[Signature]

Date July 21/2016

Reviewed and Approved by

Date

Criticality Assessment Rerun

Inspection Planning Rerun

Assessed Next Inspection Date

PRESSURE VESSEL & COLUMN INSPECTION REPORT

Date:

Equipment ID:

DETAILED INSPECTION VISUAL EXTERNAL

ID	Description	Condition			Location	NCR	Comments
		N/A	No	Good			
V1	General Other (Please Explain)			✓			
V2	General Corrosion						
V3	General Leaks						
V4	Vibration						
V5	Dissimilar Flange Rating						
V6	Ladder/Stairway						
V7	Heads						
V8	Guy Wires						
V9	Electrical Ground						
V10	Painted Inactive Corrosion						
V11	Coating/Painting						
V12	Expansion Joint or Bellows						
V13	Gauge/Site Glass						
V14	Shell						
V15	Jacket						
V21	Support Other (Please explain)						
V22	Foundation						
V23	Anchor Bolts						
V24	Saddle/Skirt						
V25	Davit						
V26	Fireproofing						
V31	Connections Other (Please explain)						
V32	Small Branches						
V33	Nozzles						
V34	Manways						
V35	Reinforcing Pads						
V36	Inadequate Thread Engagement						
V37	Bolting						slight rusting on bolts
V38	Flanges						
V39	Leak Clamps						
V41	Insulation Other (Please explain)						
V42	Damage						
V43	Penetrations						
V44	Insulation Jacket						
V45	Banding						
V46	Seals/Joints						
V51	Relief Devices Other (Please explain)						
V52	Corrosion						
V53	Leaks						
V54	Restricted Inlet/Outlet						
V55	Manual Operation Lever						



W
RT1
HT



CERTIFIED BY

Paintearth

ENERGY SERVICES INC.

YEAR BLT 2008

SERIAL NO. U-9462

VESSEL TYPE 16DDXT6S/VERTICAL SEPARATOR

M.A.W.P. 1415 PSI AT 150 °F

M.C.M.T. -20 °F AT 1415 PSI

SHELL TK. 1.031 IN HEAD TK. 0.900 IN

CRN U5616.2 C.A. 0.125 IN

A# A 588070

9869

MAILING ADDRESS: BOX 24 HALKIRK ALBERTA CANADA T0C 1M0



SAFETY FIRST
EYE WASH STATION

EMERGENCY EYE WASH

DIRECTIONS
PRESS THE EYE-CUP GENTLY AGAINST THE SOCKET OF THE EYE WHILE KEEPING THE EYE OPEN AND RINSE PROFUSELY BY REPEATEDLY SQUEEZING THE WALLS OF THE BOTTLE.
ASK FOR IMMEDIATE MEDICAL ATTENTION

NORTH





BER-MAN
Chubb & Sons
LONDON
MADE IN ENGLAND

KEEP TIGHT

40

RECYCLED MATERIAL
CAUTION
DO NOT REMOVE METAL OBJECTS

LOG 4
151
1